

CAPTAIN A. LISTER KAYE was born at Denby Grange, near Wakefield, on 1834 May 12. He entered the Royal Artillery and served in the Crimea, for which he received the Crimean Medal and Turkish Clasp of the Order of the Medjidie. He was also twice with his regiment in India. He left the Army in 1865 and lived at the Manor House, Stretton-on-Dunsmore, Rugby, till his death on 1893 December 5. He married in 1867, and leaves a widow, two sons, and three daughters.

He possessed a 4-inch refractor by Cooke, and a transit, and observed sun-spots and double stars.

He was elected a Fellow in 1882 November, but contributed no papers to the Society.

[For the above particulars the Council is indebted to Mrs. Lister Kaye.]

ARTHUR JAMES MELHUISE was born in London in 1829. In 1853 he married Caroline Powell, of Tiverton, Devonshire, by whom he had seven children—three sons and four daughters. He lived for some years at Blackheath, but came to London in 1863, and resided for many years at 12 York Place, Portman Square (the house formerly occupied by William Pitt). He died at Brondesbury on 1895 November 1. In 1873 he started, in conjunction with Mr. Alfred Wilcox, the *Church of England Pulpit and Ecclesiastical Review*, which is still carried on, though now in other hands. He is the author of a work on “Mental Analysis,” and of many papers published in various magazines—“The Geology of the Bible,” “Truth about Ghosts,” “Good Fools,” &c.

He was elected a Fellow in 1863 January, but contributed no papers to this Society. He was an Honorary Fellow of the Meteorological Society.

[For the above particulars the Council is indebted to Mr. A. Newton Melhuish, son of our deceased Fellow.]

OLUF ANDREAS LÖWOLD PIHL was born 1822 December 5 in Stavanger, Norway, where his father was a merchant. Mechanical ingenuity has been characteristic of several members of this family. Oluf Pihl's grandfather, a country clergyman at the close of the last and the beginning of this century, was not only an astronomical observer, but had in his residence in Hedemarken, near the lake of Mjøsen, a real workshop for clocks, speculum-telescopes, and other astronomical and physical instruments. The University Observatory in Christiania is in possession of some instruments of his making, *e.g.* an artificial horizon of glass, with level, and a clock with gridiron pendulum, which is still in use in the meteorological room of the Observatory, and has several times been used as an electrical transmitter for coincidences of clock signals in longitude determinations. A box chronometer, used by Oluf Pihl for his astronomical observations, was also of his grandfather's making.

Oluf Pihl's mechanical abilities having made their appearance in early boyhood in the usual manner by his taking watches to pieces and putting them together again (his first positive enterprise in this way was to put a new spring in the watch of a fellow-schoolboy who had dropped it in the street, but dared not tell the misfortune to his father), he was sent to England to be an engineer. Here he made the acquaintance of a Norwegian engineer, Mr. Sørensen (later on for many years director of the mechanical works of the Royal Norwegian Navy), and of a Swedish Count Rosen, an amateur engineer, who had formerly taken part in the Greek War of Independence, and was then living in London. By their advice he went to Sweden, after a year's stay in England, to obtain the necessary theoretical training at a technical school in Gothenburg, where he remained for three years. Returning thence to England, he worked first under the celebrated John Ericson, at that time residing in England; next in one of Robert Stephenson's engineering offices; and lastly as a constructor under the engineer for the Huddersfield-Manchester Railway. In 1849 he left for Christiania and took, in the following year, the direction of the gasworks, in which position he remained till a month before his death in 1895. He has also taken part in the construction of waterworks and other engineering works in Norway, partly in collaboration with his younger brother, Carl Pihl, now one of the directors of the Norwegian railways.

Oluf Pihl's deep interest in the sciences was greatly stimulated during his stay in England. Amongst others he made here the acquaintance of Dr. Lee at Hartwell, in 1861 and 1862 President of the R.A.S. Some years after his returning to Christiania Pihl bought a small property, formerly the country house of the Norwegian poet Tullin (now long ago included in the town), and added to it a tower, in which he set up an equatorially mounted telescope of $3\frac{1}{4}$ inches aperture. With this he commenced a series of observations of the cluster Messier 34 (in *Perseus*), the results of which he published in 1869 under the title of *Micrometric Examination of Stellar Cluster in Perseus*, containing the results of the separate observations and a catalogue for 1865.0 of 85 stars between $2^h 31^m$ and $2^h 36^m$ in R.A. and $41^\circ 56'$ to $42^\circ 26'$ in declination.

Immediately after the completion of this series he took up a new and more extensive work, the observation of the following group of the great double cluster in *Perseus*. The resulting catalogue for 1870.0, containing 236 stars in R.A. $2^h 11^m$ to $2^h 16^m$ and Decl. $56^\circ 11'$ to $56^\circ 49'$, was not published till 1891 under the title *The Stellar Cluster χ Persei micrometrically surveyed*. In the preface the author says: "That so long a period as about twenty years has elapsed between the commencement and completion of the present work is owing, not so much to the limited time which I, as a business man, have had at my disposal for scientific occupation, as to the fact that during a long series of years,

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and up to a comparatively short time ago, I was in very bad health, and therefore during many years almost, if not quite, cut off from all work in my observatory during the cold season, when that work which required most time had to be carried out."

A comparison with the results of previous observations of parts of the same cluster induced Pihl to make an investigation of a peculiar difference, evidently of physiological origin, between the results from occulting micrometers, which he had used in all his observations, and other micrometers. The investigation was given in the publication *On Occulting Micrometers and their Value as applied to exact Astronomical Measurements* (Christiania, 1893).

Among other mechanical contrivances with which Pihl occupied himself in his leisure hours was the construction of electrical clocks. His own house, as well as those of his three sons, was furnished with such, made by his own hands. The construction of the apparatus for giving the appulse to the pendulum had in early years led him to an investigation of magnetic attraction at short distances. Here he met with the problem of calculating, from the known fundamental law, the attraction between two parallel circles (surfaces or peripheries). As this leads to elliptical integrals, which, he could not master, he resolutely split up the areas or peripheries into small parts and made a direct calculation, partly by construction and interpolation. The results of these calculations, for several dimensions and distances, he has given in *Christiania Videnskabs-Selskabs Forhandlinger*, 1876 and 1881. The whole investigation, which included a very extensive series of experiments of different kinds, partly made with apparatus of his own construction, was published in 1878 in a book of 135 pages, *On Magnets*, forming an appendix to the proceedings of the said society.

Pihl was elected a fellow of the R.A.S. 1860 November 9, and has contributed some papers to vols. xxviii., xxix., and xxxiii. of the *Monthly Notices*, dealing partly with his observations of stellar clusters, partly with the meteoric showers of 1866 November 13-14 and 1872 November 27.

In 1850 he married a Swedish lady, Miss Tranchell, after whose death, in 1894, his own health rapidly declined. After suffering some time from Bright's disease he died 1895 July 1. His deep interest and extensive knowledge in science, his love of music, and his amiable hospitality will be remembered, not only among his countrymen, but certainly also among many foreign friends.

[The Council is indebted to Prof. H. Geelmuyden, of the Christiania Observatory, for the above notice.]

ALFRED WHITE was born in Holborn on 1811 March 3. He was the elder son of Paul Sleath White and grandson of William White (the first Grand Secretary of the English Freemasons and Secretary of the Honourable Artillery Company, Finsbury),